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ANNOUNCEMENT OF THE

SCHOOL OF TROPICAL MEDICINE

HARVARD MEDICAL SCHOOL

BOSTON, MASS.

1914—15

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SCHOOL OF TROPICAL MEDICINE

OF

HARVARD UNIVERSITY

CATALOGUE AND ANNOUNCEMENT

1914–15

HARVARD SCHOOL OF TROPICAL MEDICINE
240 Longwood Avenue, Boston, Mass.
1914

1914

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CALENDAR

1914

Sept. 30, Wednesday.	Registration of students and selection of courses.
Oct. 1, Thursday.	School term begins. Payment of tuition fee is required on or before this date.
Oct. 12, Monday.	Columbus Day: a holiday.
Nov. 26, Thursday.	Thanksgiving Day: a holiday.

RECESS FROM DEC. 23, 1914, TO JAN. 2, 1915, INCLUSIVE

1915

Feb. 22, Monday.	Washington's Birthday: a holiday.
April 5, Monday.	Final examinations begin.
April 10, Saturday.	School session ends.
June 24, Thursday.	Commencement: award of diplomas and degrees.

ORGANIZATION OF THE SCHOOL OF TROPICAL MEDICINE

ABBOTT LAWRENCE LOWELL, LL.D., PH.D., PRESIDENT OF HARVARD UNIVERSITY.

EDWARD H. BRADFORD, A.M., M.D., DEAN OF THE HARVARD MEDICAL SCHOOL.

HORACE D. ARNOLD, A.B., M.D., DEAN OF THE GRADUATE SCHOOL OF MEDICINE.

RICHARD P. STRONG, PH.B., M.D., SC.D., DIRECTOR

CONSULTING BOARD

HAROLD C. ERNST, M.D., A.M.
THEOBALD SMITH, A.M., M.D., LL.D., S.D.
MILTON J. ROSENAU, M.D., A.M.
HENRY A. CHRISTIAN, A.M., M.D.

OFFICE

The office of the Harvard School of Tropical Medicine is at the office of the Director, Professor RICHARD P. STRONG, Harvard Medical School, Building D, Room 229, 240 Longwood Avenue, Boston, where the business of the School relating to admission of candidates, selection of courses, etc., is conducted.

The office of the Dean of the Graduate School of Medicine, Dr. HORACE D. ARNOLD, and of the Secretary of the Graduate School of Medicine, Dr. WALTER C. HOWE, is in the office of the Harvard Graduate School of Medicine, Administration Building, 240 Longwood Avenue, Boston, Mass., where the tuition fee should be paid and where the routine business of the School is conducted. The office hours of the Secretary are Monday, Wednesday, Friday, 9 to 10 A.M.; Tuesday and Thursday, 4 to 5 P.M.

GENERAL INFORMATION

The courses in the Harvard School of Tropical Medicine will begin October 1, 1914, and will continue until April 10, 1915. The courses will be open to graduates from recognized medical schools. Properly qualified students (not necessarily graduates of medicine) will be admitted to single courses, or to any number of courses which they may care to select from the various subjects offered. The School aims to give an adequate preparation to those physicians who intend to practice where Tropical Diseases may be prevalent or occasionally encountered, and to those who wish to broaden the general field of their medical knowledge or to pursue original investigations in relation to Tropical Medicine.

No training will assist more the general medical student and investigator in his understanding of modern scientific medicine, or give him a wider grasp of the subject than a training in tropical medicine and its allied branches, protozoölogy, helminthology, entomology, and bacteriology, which subjects really form the groundwork of tropical medicine, and can best be taught in connection with it.

Opportunities in Tropical Medicine

With the territorial expansion of the United States begun in 1898, and with the subsequent acquisition by our government of tropical possessions, both in the eastern and western hemispheres, and with our greatly increased trade relations with many other tropical and subtropical countries, new demands were created for an accurate knowledge of the diseases prevailing in these countries, and for their prevention. There then came an urgent need for well trained men, both for the investigation of these problems in the tropics, and for the introduction of proper sanitary measures in these regions in relation to preventive medicine. Up to the present time it has not been possible to supply men always who have been properly fitted for this work, or those who are best qualified to carry it on most successfully.

In no field of medicine will the student of today find greater opportunities for original investigation than in tropical medicine. Students interested in public health work should also consider that while so much has been done in the discovery of the causes of tropical diseases, the most profitable application of these researches obviously lies in the direction of prevention. The opportunities in public health work in tropical countries are much more abundant than in temperate ones, and the triumphs which have been obtained in preventive medicine in tropical regions are even more brilliant than those which have been obtained in temperate ones. Students with the missionary spirit should bear in mind that the opportunities in the tropics for medical work from a humanitarian standpoint cannot be equalled.

Positions Available

In regard to positions available particularly for American physicians well trained in tropical medicine, it may be stated that in addition to the opportunities furnished for the practice of medicine in the southern United States and our tropical dependencies, our various civil government medical services furnish excellent opportunities in tropical and subtropical stations for physicians in hospital, public health, or laboratory work. The Rockefeller International Health Commission can also furnish a career to men properly trained in tropical medicine, and the United Fruit Company of New York and Boston has an extensive medical service under the direction of Dr. Robert E. Swigart, and likewise offers attractive opportunities to young men. The Harvard School of Tropical Medicine also has vacancies on its staff for competent workers in this subject.

Unusual Advantages of the School

The subjects embraced in the courses of study have been selected with the idea of giving the student a broad and thorough training in tropical medicine. One of the advantages which this University possesses for this work is its ability to offer the combined resources of a number of Departments and eminent teachers who are recognized authorities in their several subjects. The collections of the

Medical School and of other Departments of the University contain much valuable material for the study of Tropical Diseases, and such material will be continually added to by expeditions sent to the tropics for this purpose. One of these expeditions was sent to South America to collect material during the past school year, and two more are planned, one to Central America and one to Africa during the present year. The laboratory facilities of the Harvard Medical School are unequalled, and with these facilities and teachers the training in laboratory diagnosis so important in tropical medicine will be especially thorough.

The opportunities for the clinical study of Tropical Diseases are also good. Boston is one of the most important seaports of the country, and many cases of Tropical Diseases are received in its hospitals annually. This number will undoubtedly increase with the opening of the Panama Canal. Arrangements have been made by which practically all these cases will be available for clinical study. Funds have been secured for the opening of a hospital devoted exclusively to the treatment of cases of Tropical Disease. This hospital will be situated on the grounds of the Harvard Medical School, next to the Huntington Memorial Hospital. Arrangements have been made for the reception and treatment of private cases afflicted with Tropical Diseases at the Huntington Memorial Hospital. In addition, arrangements have been made for the study of the cases of Tropical Diseases which are received at the United States Marine Hospital at this port. The Massachusetts leper colony at Penikese Island affords an excellent opportunity for the study of leprosy.

Unusual and special opportunities will be afforded those students who in addition to obtaining the diploma in Tropical Medicine wish to pursue their studies further, or those who are candidates for a degree in Tropical Medicine. The Director of the Harvard School of Tropical Medicine also holds the position of Director of the Laboratories of the Hospitals and of Research Work of the United Fruit Company, and by arrangement with the Directors of this Company, and of Dr. Robert E. Swigart, General Superintendent of the Medical Department, a limited number of such students will be sent to stations in Central America; there, while pursuing their investigations and performing the necessary clinical or labor-

atory work in the United Fruit Company's hospitals, they will receive their board and lodging and have their laundry work done free of charge.

Tuition for the full course is $100. Laboratory material and animals used in individual experiments by students will be charged for at cost.

REQUIREMENTS FOR ADMISSION

The School of Tropical Medicine will be open to graduates from recognized medical schools. Properly qualified students (not necessarily graduates of medicine) will be admitted to single courses or to any number of courses which they may care to select from the various subjects offered. Students in the Harvard Medical School may also select courses in the School of Tropical Medicine. The Diploma in Tropical Medicine will, however, not be granted to anyone not holding the degree of Doctor of Medicine from a recognized school, or to anyone who has not completed the entire courses in Tropical Medicine at this School, or passed the examinations for the same. The requirements and form for a Degree in Tropical Medicine are under consideration.

Admission of Women

Women may be admitted to the School of Tropical Medicine on the same terms as men, and are equally eligible for the Certificate of Tropical Medicine or the degree in Tropical Medicine.

APPLICATION AND REGISTRATION

Application for admission to the School should be made to the Director, and should be accompanied by a full statement of the applicant's qualifications, including his educational history and the statement as to whether he desires to take the entire course or individual courses. Such certificates as he may possess from other institutions should also be presented for examination. A statement should also be made as to whether he is a candidate for the Diploma in Tropical Medicine.

Each student before being admitted to courses of instruction must register at the office of the Dean of the Graduate School in the Administration Building.

DIPLOMA IN TROPICAL MEDICINE

Candidates who are graduates from the Harvard Medical School, or another Medical School of recognized standing, and who have completed the full course in Tropical Medicine, have passed all the

required examinations for the same, and who have also complied with all other requirements, will be given a Diploma in Tropical Medicine.

FEES

The tuition fee for candidates for the Diploma in Tropical Medicine, and for all other students pursuing all of the regular courses in the School, is $100 for the school year, and must be paid in advance on or before the first day of the opening of the School.

Special students who do not pay the regular fee must pay a special fee for each course taken. All fees should be paid at the office of the Dean of the Graduate School in the Administration Building of the Harvard Medical School. Checks and money orders should be made payable to the Harvard Graduate School of Medicine.

Laboratory material and animals used in individual experiments by students will be charged for at cost.

OFFICERS OF INSTRUCTION

Richard P. Strong, Ph.B., M.D., Sc.D., *Professor of Tropical Medicine.*

Harold C. Ernst, M.D., A.M., *Professor of Bacteriology.*

Theobald Smith, M.D., LL.D., S.D., *George Fabyan Professor of Comparative Pathology.*

Milton J. Rosenau, M.D., A.M., *Professor of Preventive Medicine and Hygiene.*

William M. Wheeler, Ph.D., *Professor of Economic Entomology.*

Robert DeC. Ward, A.M., *Professor of Climatology.*

George H. Parker, S.D., *Professor of Zoölogy.*

Winthrop J. V. Osterhout, Ph.D., *Professor of Botany.*

Henry A. Christian, A.M., M.D., *Hersey Professor of the Theory and Practice of Physic.*

Frank B. Mallory, A.M., M.D., *Associate Professor of Pathology.*

Theodore Lyman, Ph.D., *Assistant Professor of Physics, and Director of the Jefferson Physical Laboratory.*

Ernest E. Tyzzer, A.M., M.D., *Assistant Professor of Pathology.*

S. Burt Wolbach, M.D., *Associate Professor of Bacteriology.*

Charles T. Brues, S.M., *Assistant Professor of Economic Entomology.*

Thomas Barbour, Ph.D., *Curator of Oceanica, and Associate Curator of Reptiles and Amphibians in the Museum of Comparative Zoölogy.*

Harvey P. Towle, A.B., M.D., *Instructor in Dermatology.*

Richard S. Austin, M.D., *Instructor in Bacteriology.*

DESCRIPTION OF COURSES

701.* General Medical Zoölogy.

George H. Parker, Professor of Zoölogy.

This course is intended for those who wish to obtain a comprehensive view of the subject, and to aid students in the courses in protozoölogy and helminthology.

702. Protozoölogy.

Ernest E. Tyzzer, Assistant Professor of Pathology.

The course in Protozoölogy will include a general discussion of the morphology and life history of the more important human protozoan parasites, such as the amoebae, flagellata (trypanosomes, the parasites of kala azar and oriental sore), sporozoa (malarial parasites) and ciliata. Their relations to their definitive and to intermediate hosts will also be discussed, together with phenomena of immunity. Methods for the cultivation of certain parasites and suitable procedures for collecting, staining, and mounting will be discussed.

703. Helminthology.

The course in Helminthology will include the differentiation and classification of species and instruction in collecting, preserving, staining, and mounting the parasites and their ova, and the cultivation of the parasites when possible. The human cestodes, trematodes and nematodes will be considered in detail. Certain species of the acanthocephala, the pentastomida and hirudinea will also be discussed.

704. Venomous Animals.

Thomas Barbour, Curator of Oceanica, and Associate Curator of Reptiles and Amphibians in the Museum of Comparative Zoölogy.

In this course the poisonous snakes, reptiles, scorpions, fish, coelenterates, and amphibians common in the tropics will be demonstrated. The poisonous effects produced by them and the methods of treatment also will be considered.

705. Poisonous Plants of the Tropics.

Winthrop J. V. Osterhout, Professor of Botany.

This course will consist of lectures and demonstrations on the more important poisonous plants of the tropics and the effects produced by them.

* These courses are numbered 701–715, inclusive, to correspond with the numbers given in the annual catalogue of the Graduate School of Medicine.

706. Tropical Entomology.

William M. Wheeler, Professor of Economic Entomology, and C. T. Brues, Assistant Professor of Economic Entomology.

This course will consist of a few general lectures on the structure and classification of the Arthropoda, followed by a more detailed account of the Arthropoda known to be concerned and likely to be concerned in the transmission of human and animal diseases or in the infliction of local injuries and physiological disturbances. Laboratory work and demonstrations will also constitute an important feature of the courses and will provide for training in the dissection of insects, in the principal methods of studying their life histories and habits, and in their identification by means of dichotomic tables and from technical descriptions. The student will be provided with a list of most useful monographs and reference books on blood-sucking and disease-disseminating arthropoda and should acquire an extensive acquaintance with this literature.

The following orders, families, and genera will be considered: —

1. Insecta, with particular reference to the diptera, suctoria, siphunculata, hemiptera, hymenoptera, and lepidoptera.
2. Myriopoda, including the scolopendridae.
3. Arachnida, including the scorpionidea, araneina, and acari.

707. Bacteriology of Tropical Diseases.

Harold C. Ernst, Professor of Bacteriology; S. Burt Wolbach, Associate Professor of Bacteriology, and Richard S. Austin, Instructor in Bacteriology.

This course will include the identification of the etiological factor and the diagnosis of the infection by laboratory methods, such as cultures, serum reactions, and the inoculation of animals, of the more important tropical diseases.

708. Pathology of Tropical Diseases.

Frank B. Mallory, Associate Professor of Pathology.

This course will include the study of the macroscopic and histological lesions in the more important tropical diseases.

709. Clinical Laboratory Work.

This course will be practical and will cover methods of obtaining and the technique of examination of materials from tropical affections where a diagnosis may be made or aided by the microscope.

710. Comparative Pathology of Tropical Diseases.

THEOBALD SMITH, George Fabyan Professor of Comparative Pathology.

This course will consist of a discussion of the etiology, pathology and immunology of the more important infections and parasitic diseases of domestic animals prevalent in the tropics (piroplasmoses, trypanosomiases, rinder pest, etc.). The preparation of smallpox vaccine for the tropics will also be dealt with.

711. General Course in Tropical Medicine.

RICHARD P. STRONG, Professor of Tropical Medicine.

This course will include lectures, laboratory work, and bedside demonstrations, with particular reference to the more important tropical diseases. Particular attention will be paid to the laboratory diagnosis of the various diseases considered.

712. Tropical Dermatology.

HARVEY P. TOWLE, Instructor in Dermatology.

This course will include the study of the lesions of the skin, with particular reference to the more common dermatological affections encountered in tropical countries.

713. Preventive Medicine and Hygiene.

MILTON J. ROSENAU, Professor of Preventive Medicine and Hygiene.

This course will consist of lectures, demonstrations, sanitary excursions and practical exercises. The course gives a bird's-eye view of the entire range of hygiene and sanitation, with reference to tropical conditions. A number of communicable diseases will be discussed, with particular reference to prevention. Some of the subjects which will be considered are: Vaccination, smallpox, rabies, yellow fever, malaria, plague, cholera, hookworm disease, pellagra, typhoid, tuberculosis, insect-borne diseases, heredity, eugenics, venereal prophylaxis, sex hygiene, preventable blindness, disinfection, quarantine, vital statistics, water, soil, air, food, disposal of wastes, duties of the health officer, personal hygiene and management of epidemics.

Particular reference will be made to the subjects of drinking water supplies in the tropics and to the methods of their examination; surface waters, their sources of contamination and purification; food stuffs, with particular reference to poisoning by foods in the tropics; removal and disposal of waste matter. Other subjects considered are: the hygiene of towns and streets in the tropics; the construction of dwelling houses for

whites and natives and of markets, slaughter houses, stables and cow-sheds, hospitals for infectious diseases, quarantine stations, emigrant stations, jails and leper asylums; and to sanitation on shipboard and port hygiene.

Sanitary excursions include visits to the Bussey Institution, dairies and dairy farms, reduction works, sewage disposal plants, water filters, slaughter houses, boards of health, quarantine and other places of public health interest.

714. Tropical Climatology.

Robert DeCourcy Ward, Professor of Climatology.

This course will include a brief discussion of climate in general. Controls of climate, with special reference to tropical climatology: latitude; land and water (continental and marine climates); altitude (mountain climates); exposure; prevailing winds; ocean currents; mountain barriers; vegetation. — Classification of climates. — Characteristics of tropical climates: climate and weather in the tropics; temperature; the seasons; pressure; winds and rainfall; land and sea breezes; thunderstorms; cloudiness; intensity of sky-light and twilight. — Climatic subdivisions: the equatorial belt; trade wind belts; monsoon belts; mountain climates. — The climatologist's view of acclimatization and hygiene of the tropics. — The life of man in the tropics, as controlled by tropical climates.

715. Tropical Sunlight.

Theodore Lyman, Assistant Professor of Physics, and Director of the Jefferson Physical Laboratory.

This course will consist of a discussion of the nature of light with special reference to those phenomena which affect living organisms particularly in tropical countries.

UNIVERSITY OF ILLINOIS-URBANA
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The Annual University Catalogue.

The Annual Catalogues of the College and the several Professional Schools of the University; the Departure Pamphlet; the Announcements of the several Departments; etc., etc.